

U.S. Application No. 09/605,261
AMENDMENT A

Attorney Docket: 3698.008

towards the tooth head, wherein said individual threaded blades are produced as so-called screw surfaces which are generated by the rotation of a certain tooth profile with a pitch around the socket axis with a constant radial distance from the axis of the socket, whereby sequential threaded blades have a larger radial spacing from those preceding them in the direction of screwing.

28. A screw-in type artificial hip joint socket as in claim 27, wherein said individual blades include cutting edges, and wherein the radial distance of the cutting edges from the socket axis is always larger than the corresponding radial distance of the leading edge of the blade sufficient to achieve a reduction the screw-in forces of the cutting edges.

29. A screw-in type artificial hip joint socket as in claim 27, wherein front outerlying cutting edge of the threaded blade is effective because it has a larger radial distance from the socket axis than the leading cutting edge sufficient to lower screw-in forces with average tactilience and improved primary and secondary fixation of the implant.

30. A screw-in type artificial hip joint socket as in claim 27, wherein said tooth profiles are trapezoidal, and wherein three screw surfaces are formed, one on the head side and two on the lateral sides, such that these screw surfaces can be shortened in their base area along their extension if the tooth profile runs into the surface shell for certain shell geometries of the

U.S. Application No. 09/605,261
AMENDMENT A

Attorney Docket: 3698.008

screw socket, and such that the surfaces which follow the cutter at the start of the respective threaded blade will then have a neutral angle.

31. A screw-in type artificial hip joint socket according to claim 27, wherein, in order to enable the cutting edge to have the optimum effect at the start of each respective thread blade, said thread blade protrudes compared with the leading threaded blade, by selecting a larger radius for the screw surfaces of each following threaded blade than for the screw surfaces of the preceding thread blade.

32. A screw-in type artificial hip joint socket according to claim 27, wherein the individual threaded blades are swivled relative to one another in their extension as a function of the windup of the cutting grooves.

33. A screw-in type artificial hip joint socket according to claim 32, wherein the direction of swivel is one which approaches the windup angle in order to realise an overstand of the lateral cutting edge with a positive cutting angle.

34. A screw-in type artificial hip joint socket according to claim 27, wherein said ribs are angled neutrally or towards the pole of the socket and any constant or variable pitch.

U.S. Application No. 09/605,261
AMENDMENT A

Attorney Docket: 3698.008

35. A screw-in type artificial hip joint socket according to claim 27, wherein n said tooth as a pointed thread.

36. A screw-in type artificial hip joint socket according to claim 27, wherein said screw-in socket is hemispherical, the thread is a pointed thread comprising in principle a triangular thread tooth profile, wherein the thread length commences with an initial small thread blade and the tooth height increases over several stages and reaches its final (average) tooth height at a threaded blade on the thread nearest the socket pole, wherein the edge formed by the tooth head comprises for each individual threaded blade a screw line with constant distance from the axis of the screw-in socket, and wherein the edge (38) formed at the base of the tooth between the threaded blade and the shell of the screw-in socket appears to run backwards into the shell and after adopting a larger radial distance from the socket axis for the screw surfaces of the next subsequent threaded blade during screwing in, the cutting edges on both side are either lateral to the thread profile of the leading thread blade or protrude radially outwards and will as such cut easily during screw-in.

37. A screw-in artificial hip joint socket as in claim 27, wherein the outer configuration of the shell surface is spherical, paraspherical, conical, conical-spherical, or parabolic.

U.S. Application No. 09/605,261
AMENDMENT A

Attorney Docket: 3698.008

38. A screw-in artificial hip joint socket as in claim 27, wherein said thread is a pointed thread angled neutrally or towards the pole of the socket.

39. A screw-in artificial hip joint socket in accordance with claim 27, wherein the threaded blades are swivled relative to one another in their extension with a small angle in the direction of the wind-up angle of the cutting grooves.

40. A screw-in artificial hip joint socket in accordance with claim 39, wherein the swivel is in the direction of the windup of the cutting grooves.

41. A screw-in type artificial hip joint socket comprising a shell body having an outer surface, said outer surface having a threaded portion provided thereon with a self-tapping threading for screwing into the acetabulum along a socket axis, the threading on the shell surface defined by ribs divided by cutting grooves (44) into individual blades (35, 36), said blades having a tooth profile which tapers from tooth foot out towards the tooth head, wherein the threaded rib of the thread has individual threaded blades (100, 101) separated from one another by cutting grooves (102, 103), characterised in that on the individual threaded blades there are cutting edges (105) formed by relicts of the overshoot behaviour of the system in preceding sections, whereby thread blades following in the